

FMC User group Meeting Minutes – 26 Sept 18

Attendees:

Tom Bertenshaw (Chair)	ТВ	GKN Aerospace
Ray ten Grotenhuis	RtG	OPG
Benoit Lepage	BL	Olympus NDT (Canada)
Joe Buckley	JB	PEAK NDT / Self
Adri van den Biggelaar	AB	Applu RTD
Maria Felice	MF	Proceq
David Reilly	DR	Zetec
Larissa Fradkin	LF	Sound Mathematics Ltd
Myles Dunlap	MD	EPRI
Mark Dennis	MD	EPRI
fzottig		Unknown caller

Agenda:

- FMC Applications greatest interest to industry?
- Calibration for FMC/TFM
- IIW and ASME working group liaison
- Update on common file format

Notes Transcript

FMC Applications:

The Table was updated and now includes the following information and interested parties:

- 1. Weld (steel) Inspection
- 2. Composite Material inspection
- 3. Additively Manufactured parts
- 4. Concrete testing
- 5. Corrosion mapping
- 6. Hydrogen damage in steel components (e.g. HTHA)
- 7. Other heavy metal applications

Equipment providers		Research Institutions		Industrial end users	(Sector)		Codes & Standards
Zetec		МТС		GKN Aerospace	Aerospace	2,3	ASME
Olympus	1-6	Strathclyde University		OPG	Power gen	3,5,7	IIW/ISO
Eddyfi		Bristol University		Roll Royce	Aerospace & Marine		ASTM
Sonomatic		EPRI	1-6	EDF	Power gen		
GE		Sound mathematics Ltd	1,5	GE	Power gen?		
Dophitech		TWI		Westinghouse	Power Gen & Nuclear		
Applus RTD	1,2,5,6			ВР	Oil & Gas		
PEAK NDT	1-6			Space X	Space		
AOS	1-5						
TPAC (with AOS)							
Proceq	1,4,5						

Calibration for FMC

With respect to calibration two areas for calibration were proposed by the TB.

- Calibration for thickness measurement it was explained here that a reference block would be needed with two known block thicknesses. This is a calibration technique used for phased array inspection, and the same can apply for FMC.
- *Calibration for amplitude correction*. This is useful for sizing in composites. This is also a calibration technique used for phased array inspection, and the same can apply for FMC.

It was pointed out that the dependency on calibration was based on what FMC was being used for. For example, if FMC was used for sizing, then calibration of measurement would be required. If it was used for just detection then this wouldn't be needed. **AB** stated calibration is for *verification*.

It was proposed to draw up a list of needs for calibration - Action TB

For OPG, **RtG** suggested another need for calibration was to verify blind spots. On questioning, it appears that blind spots are due to geometry and material characteristics. It might be an idea to use a model based approach.

It was also suggested that some manufacturers were moving to equipment that performs FMC/TFM automatically, with "live TFM" inspection, and in doing so may miss out other information.

To define "live" inspection it was agreed this meant:

- Processing capability that displays each TFM frame at around 10Hz (30Hz is the refresh rate of the human eye)
- Does not keep the raw data.

Update on standards:

Nothing specific was reported on standards for this month.

MFMC common file format

Two questions were asked about what has been presented on the FMC user group previously.

- Who has access to / read through the Technical spec?
- What would Equipment providers want/need to adopt the MFMC format

For those that were on the call, it turns out that they have not yet read through the Technical spec. It was proposed to re-send around the link for the University Google drive that contains this information.

Post meeting note: several of the meeting attendees were keen to have access to this information. This has been provided in the link below:

https://drive.google.com/drive/folders/0B7Mn0bz1UC0velQ5SXIhLVpJdGc?usp=sharing